



Missouri Department of Health and Senior Services

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Guidelines for Laboratory Testing Suspect Cases of West Nile Virus Infection

The Missouri Department of Health and Senior Services (DHSS) has revised its surveillance and testing procedure for arboviral disease (including West Nile Virus). In order to effectively use laboratory resources, it is asked that submitting facilities consider **(1)** clinical presentation associated with the patient, and **(2)** the transmission season of the virus before submitting specimens to the Missouri State Public Health Laboratory.

Testing for arboviral diseases will be limited to serum and cerebrospinal fluid (CSF) specimens from patients with one of the following clinical presentations:

1. **(a) Neuroinvasive disease**, which requires the presence of fever [$\geq 37.8^{\circ}\text{C}$ (100°F)] **or** hypothermia ($\leq 35^{\circ}\text{C}$) and at least one of the following, as documented by a physician and in the absence of a more likely clinical explanation:

- Headache, stiff neck, or rash, **or**
- Acutely altered mental status (e.g., disorientation, obtundation, stupor, or coma), **or**
- Other acute signs of central or peripheral neurologic dysfunction (e.g., paresis or paralysis, nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, or abnormal movements), **or**
- Pleocytosis (increased white blood cell concentration in the CSF) associated with illness clinically compatible with meningitis (e.g., headache or stiff neck).

(b) Non-Neuroinvasive disease, which requires at minimum, the presence of documented fever [$\geq 37.8^{\circ}\text{C}$ (100°F) as measured by the patient or clinician], and at least one of the following signs or symptoms, as documented by a physician, and in the absence of a more likely clinical explanation:

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|------------------------|----------------------------|-----------------------|
| • Fatigue | • Muscle pain or aches | • Joint pain or aches |
| • Headache | • Muscle weakness | • Diarrhea |
| • Rash | • Neck pain or stiffness | • Vomiting |
| • Sensitivity to light | • Difficulty concentrating | |

(2) Transmission Season for arboviral infection in Missouri is primarily during the months of June through October. Specific cycles of viral transmission depend on local geographical and climate conditions and may vary between regions of the state. During this period, also consider the following person-to-person transmission pathways in patients with acute febrile illness, meningitis, encephalitis, or acute flaccid paralysis:

- Organ and tissue transplantation

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- Blood and blood-product transfusions
- Newborns potentially infected transplacentally or via breast milk

Human Testing Recommendations

Patients that do not exhibit the signs and symptoms described above, or whose disease falls outside the transmission season, have only rarely been found to have laboratory results positive for arboviral disease, and thus laboratory testing of these individuals is of limited usefulness for surveillance purposes. While it is important to conduct laboratory surveillance for human cases of West Nile and related arboviral diseases, testing of specimens that fall outside the categories described above are discouraged, and should not be submitted for testing.